



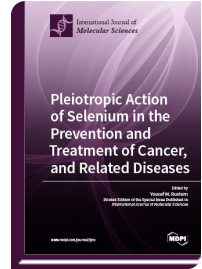
Special Issue Reprint

Pleiotropic Action of Selenium in the Prevention and Treatment of Cancer, and Related Diseases

www.mdpi.com/books/reprint/1188

Edited by
Youcef M. Rustum

ISBN 978-3-03897-692-9 (Softback)
ISBN 978-3-03897-693-6 (PDF)



Gene cloning and sequence has provided the opportunity to identify and characterize the functional role of biomarkers expressed in and on tumor cells and the surrounding microenvironment. Molecular and immunologic heterogeneity of cells in the tumor microenvironment contributes to instability, enhanced angiogenesis, and drug resistance of the tumor cell. Since tumor cells are the ultimate therapeutic targets for drugs and therapy development, the tumor microenvironment that regulates the growth and the delivery of effective drug concentrations to tumor cells is the gatekeeper. Thus, to have a significant impact on the overall survival and cure of patients with advanced cancer, the stabilization of the tumor microenvironment should be the initial treatment, followed by treatment that targets and kills tumor cells.

Antiangiogenic therapies hold considerable promise in the treatment of a subset of cancer patients and are reported to have a significant impact on the stabilization of the tumor microenvironment. More recently, selenium-containing molecules, such as selenomethylselenocysteine, seleno-L-methionine, and selenized yeast, among others, have been shown to target and modulate biomarkers associated with tumor cells and the tumor microenvironment. The effects are selenium type-, dose-, and schedule-dependent. The pleiotropic actions of selenium are necessary for tumor cell sensitization, and synergy with mechanism-based combinations. This Special Issue is devoted to highlighting evidence for the potential role of specific types, doses, and schedules of selenium alone and in combination with mechanism-based biologic and cytotoxic therapies for the prevention and treatment of cancer and related diseases. The collection of contributions should provide an overview of the pharmacology, metabolism, and detoxification of selenium and delineate the use of different types of selenium molecules, relevant to the use of selenium as a potential modulator of the therapeutic efficacy and toxicity of biologic and cytotoxic therapies for cancer and related diseases. The pleiotropic action of specific types of



MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.